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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,558	01/25/2002	Faramarz Sabouri	5581	8808

7590 10/08/2003

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EXAMINER	
TRAN, CON P	

ART UNIT	PAPER NUMBER
2644	8

DATE MAILED: 10/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/056,558	SABOURI ET AL.	
	Examiner	Art Unit	
	Con P. Tran	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 January 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6,7* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 4, and 7-10** are rejected under 35 U.S.C. 102(b) as being anticipated by Wilkison et al. (U.S. 5,245,654, cited by Applicants, hereinafter, "Wilkison").

Regarding **claims 1, 4, 7, and 8,** Wilkison teaches a telephone interface, also referred to as a direct access arrangement (DAA 10) for coupling a user device (12) to the telephone network. The direct access arrangement (DAA 10) includes a transmit optical isolator circuit (50; i.e., transmission circuit), a receive optical isolator circuit (52), and a hybrid (55). Hybrid (55) has the well-known function of interfacing (i.e., transmission interface circuit) the two-conductor line circuit (L+ and L-) to separate transmit and receive channels for matching impedance (col. 5, lines 47-49) condition (Fig.1; col. 2, line 57- col. 3, line 3).

Driver (65) includes an operational amplifier (i.e., transmission op amp) XOP2A having its non-inverting input coupled to transmit line (30) through a blocking capacitor (C1) and its output coupled through a current-limiting resistor (R1) to the anode of the opto-

isolator's LED. The anode of the feedback photodiode is coupled to the inverting input of op amp XOP2A. This feedback connection, in cooperation with a resistor R25 and a capacitor C11 (Fig. 2A, 2B; col. 3, lines 30-45).

Optical isolator circuit (52; i.e., receiver) includes an opto-isolator (80), a driver (85), and a current-to-voltage amplifier (90). Driver (85) includes an op amp XOP1D (i.e., receiver op amp; col. 3, lines 63-68) having its non-inverting input coupled to receive the output signal from hybrid (55) and its output coupled to the anode of the LED in opto-isolator (80). Current-to-voltage converter (90) comprises an op amp XOP2B having its inverting input coupled to the anode of the output photodiode in the opto-isolator (80) and its output coupled to receive line (23) (Fig.2A, 2B, 2C; col. 3, line 30 - col. 4, line 10).

Thus claims 1, 4, 7, and 8 met.

Regarding **claim 9,** Wilkison further teaches the transceiver system (Fig.2A, 2B, 2C) as claimed in claim 8, wherein the transmission circuit includes a dual negative feedback network (Op-Amp XOP2A , R3, R25; col. 3, lines 30-45).

Regarding **claim 10,** Wilkison teaches the transceiver system (Fig.2A, 2B, 2C) as claimed in claim 8, wherein said dual negative feedback network (Op-Amp XOP2A , R3, R25) increases a relatively small impedance of the matching network to a larger line driver output impedance to match the characteristic impedance of the transmission line of said transceiver system (through current amplifier 70; col. 3, lines 46-62).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 2-3, and 5-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilkison et al. (U.S. 5,245,654, cited by Applicants, hereinafter, "Wilkison") in view of Consi (U.S. 5,838,722, cited by Applicants).

Regarding to **claim 2,** Wilkison et al. teaches the transmission line interface circuit according to claim 1. However, Wilkison et al. does not explicitly suggest the transmission line interface circuit includes a primary transformer winding.

Consi teaches (see Fig. 1) the transmission line interface circuit includes a primary transformer winding (25) that is connected in series with the output of the transmission amplifier (Fig.1; col. 6, lines 25-30; col. 6, line 63 - col. 7, line 8).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to have included within the Wilkison reference a transmission line interface circuit as taught by Consi for purpose of providing a transceiver having drive output voltage balance in its transmitter section irrespective of

load conditions, as suggested by Consi in column 3, lines 23-26.

Regarding to **claim 3,** Consi further teaches (see Fig. 5) the transmission circuit provides a first order high pass filter function (single pole, col. 5, lines 19-32) for purpose of improvement signal-to-noise ratio (col. 7, lines 56-59).

Regarding to **claim 5,** Wilkison teaches the system as claimed in claimed 4. However, Wilkison et al. does not explicitly suggest the system includes two primary transformer windings, each of which is connected in series with one each path in the differential output of the transmission amplifier.

Consi teaches a circuit (see Fig. 1) includes two primary transformer windings (25, 26), each of which is connected in series with one each path in the differential output of the transmission amplifier (Fig.1; col. 6, lines 25-30; col. 6, line 63 - col. 7, line 8).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made to have included within the Wilkison reference a circuit as taught by Consi for purpose of providing a transceiver having drive output voltage balance in its transmitter section irrespective of load conditions as suggested by Consi in column 3, lines 23-26.

Regarding to **claim 6,** Consi further teaches (see Fig. 5) the transmission circuit provides a first order high pass filter function (single pole, col. 5, lines 19-32) for

purpose of improvement signal-to-noise ratio (col. 7, lines 56-59)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Con P. Tran, whose telephone number is (703) 305-2341. The examiner can normally be reached on M - F (8:30 AM - 5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service Office at telephone number (703) 306-0377.

cpt CPJ
September 26, 2003

MINSUN OH HARVEY
PRIMARY EXAMINER